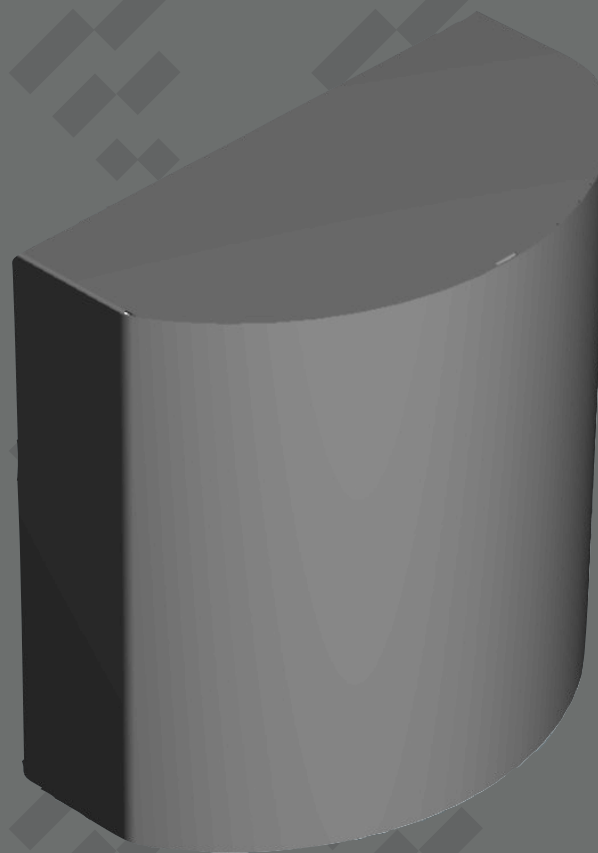


# ARITERM

*For a sustainable future*

## INSTALLATION and OPERATING MANUAL

ARROW FLUE CHANNEL



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### NOTE!

This device **must only** be connected to a pellet stove of Ariterm brand.

## 1 Product description

The *Arrow* is a system chimney flue channel with exhaust fan intended to be installed together with pellets stoves from Ariterm. These stoves are equipped with a number of safety features that prevents the flue temperature from reaching dangerous levels. The clean and highly efficient combustion prevents visible smoke or fumes without having to exit the flue gases above the roof top.

The function is based on an integrated fan creating a pressure drop in the fan box on the wall, thus supplying combustion air to the fire bed. The hot flue gases pass the convection tubes and flue channel trough the wall, and are being mixed with cool air taken from the outside. This way the mixed flue gases will be cooled to harmless temperatures before being let out into the free air.

The precisely controlled combustion of the wood pellets ensures that very little smoke will be created. When the stove is being started or stopped, some smoke can be seen and smelled. Normally this will last for a few seconds, but to ensure that flue gases will not enter the house, the fan box has to be installed with minimum distances to openable windows and doors etc. as indicated in section 2.

The Arrow is a system chimney with the following product designation:

**T400-P1-D-Vm-15050-G80**

**T400-N1-D-Vm-L15050-G80**

T400	Temperature level
P1	Pressure level
D	Condensate resistance
Vm-15050	Corrosion resistance and flue liner material specification
G80	Soot fire resistance and distance to combustibile material

## 1.1 Components

Part	Art. nbr	Component
1.	2688	Cover
2.	2675	Fan lid
3.	8176	Screw MRX M4 x 6
4.	2677	Fan housing
5.	8102	Hex nut M4
6.	8168	Screw MC6S M4 x 8
7.	8182	Hex nut M5
8.	2502	Brass bearing
9.	8181	Screw MRX M5 x 8
10.	2676	Wall box
11.	2590	Fan motor
12.	1596	Fan
13.	2370	Insulation 89/30
14.	2681	Air tube Ø80
15.	2690	Wall flange
16.	2671	Seal
17.	2388	Hose Ø40
18.	2678	Flue tube
19.	2777	Flange insulation
20.	2710	Fan wire
21.	1135	Pull down catch
22.	8179	Screw RXS 3,5 x 6,5
23.	2778	Outer wall slab

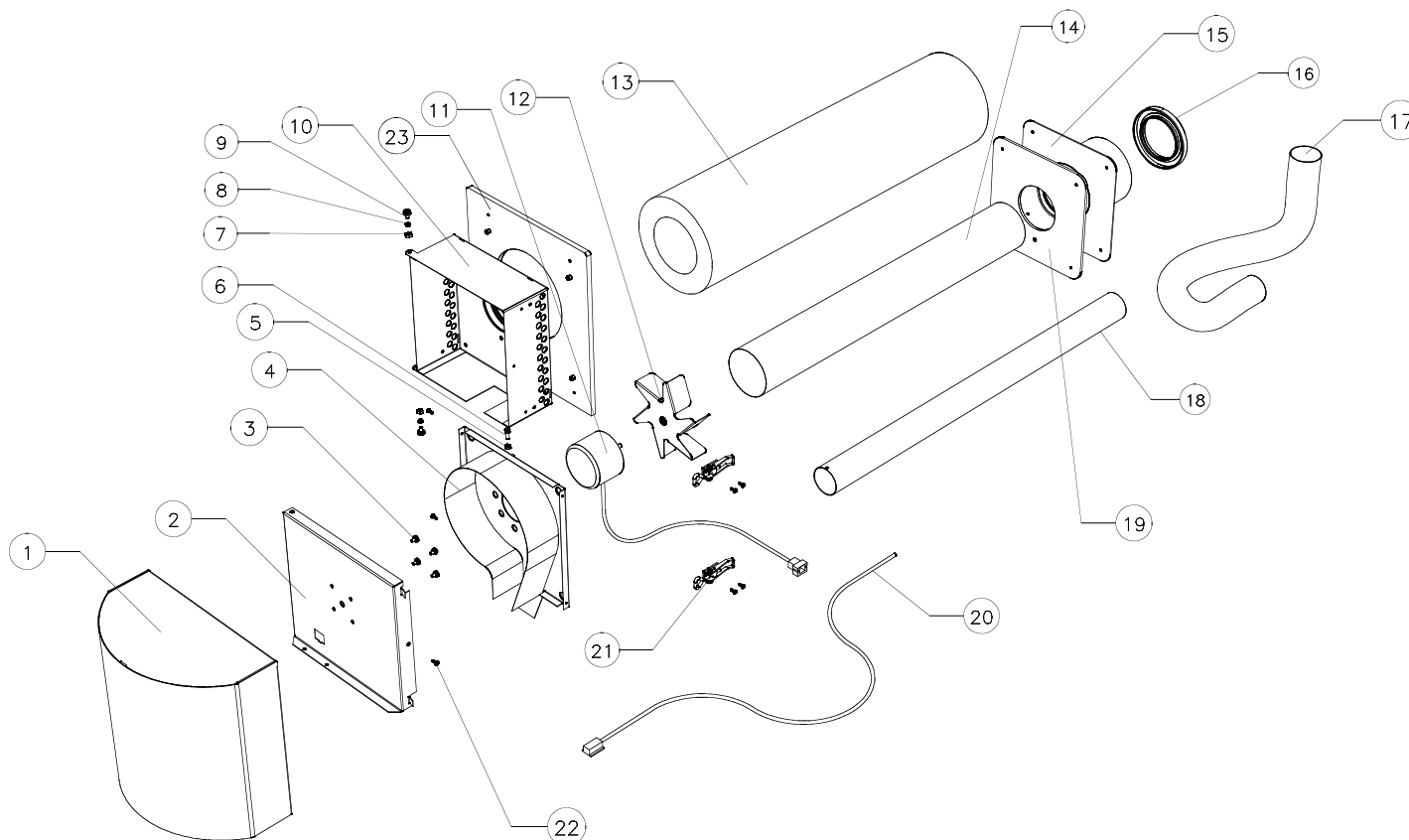


Fig. 1

## 2 Installation

NOTE! Always check with the local authority or an approved inspector before commencing installation work.

### 2.1 Positioning

The Arrow system chimney flue channel is CE-marked in accordance with the Construction Product Regulation, which indicates that it fulfils the regulations for installation and use, provided the instructions given in this manual is followed.

The house owner must consider The Building Regulations 2000, Combustion appliances and fuel storage systems. When installed according to the instructions in this manual, all relevant requirements are fulfilled.

Note that the outlet/terminal has to be positioned with minimum distances according to the table in Fig. 2.

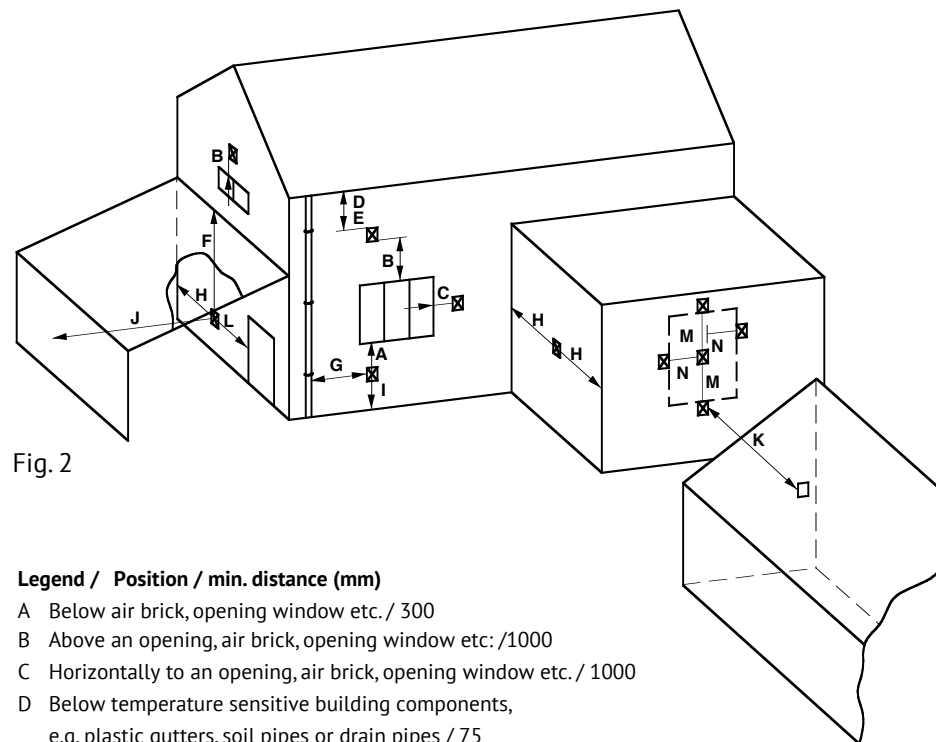


Fig. 2

#### Legend / Position / min. distance (mm)

- A Below air brick, opening window etc. / 300
- B Above an opening, air brick, opening window etc. / 1000
- C Horizontally to an opening, air brick, opening window etc. / 1000
- D Below temperature sensitive building components, e.g. plastic gutters, soil pipes or drain pipes / 75
- E Below eaves / 200
- F Below balconies or car port roof / 200
- G From a vertical drain pipe or soil pipe / 150
- H\* From an internal or external corner / 300
- I Above ground, roof or balcony level / 300
- J From a surface facing the terminal / 600
- K From a terminal facing a terminal / 1200
- L From an opening in a car port (e.g. door, window) into the dwelling / 1200
- M Vertically from a terminal on the same wall / 1500
- N Horizontally from a terminal on the same wall / 300

\*For external corners this restriction can be ignored where the external corner is formed by a building protrusion less than 450 mm, (for example chimneys on external walls).

### 2.2 Access

To ensure safety and facilitate access when sweeping and cleaning, there has to be ample room in front of the wall box. If the outlet is higher than 2 m, there should be means of attaching a ladder or working platform. Please consult your local chimney sweeper.

### 2.3 Safety against fire

The flue channel's air tube (14) has to be placed with a minimum 80 mm distance to combustible building components, e.g. wooden joists.

#### NOTE!

The chimney sweeper or a local building authorities representative must inspect the installation before the stove is started.

## 3 Electrical connection

The fan is powered from the stove, using 24 VDC via the attached cable.

## 4 Fitting

1. Place the stove on the hearth, close to the wall in the right position. Draw a line on the wall around the flue outlet of the stove, to mark the position of the hole for the flue channel.
2. Remove the stove and drill a pilot hole through the wall. Carefully aim the drill to get the hole in perfect 90° angle to the wall both vertically and horizontally.
3. Using a hole saw, make a 150 - 165 mm diameter hole through the inner wall. If the inner wall is made of combustible material (e.g. Plywood or wood panel) and if local regulations requires soot fire resistance, the hole is to be made 240 mm diameter. In this case an extra inner wall slab (Ariterm part number 2779) is to be attached to the wall.

4. Repeat with the outer wall. If the outer wall is made of combustible material the hole is to be made 240 mm diameter. The hole is then covered with the outer wall slab (23)
5. Cut the insulation tube (13) and the air tube (14) to length = total wall thickness including outer wall slab (23), and, if applicable, inner wall slab, and place it in the wall aperture.
6. Between the insulation tube and combustible building parts there has to be at least 40 mm rock-wool. Apply and fasten the outer wall slab (23) with four screws to the wall.
7. Fasten the wall box (10) with four screws (supplied) to the wall slab (23) and pull the electric cable through the insulation tube into the room. Use a suitable sealing compound to seal off between wall slab and insulation tube.
8. Push the air tube (14) into the insulation (13) so that the air tube enters over the spigot of the wall box. It is a tight fit so some pushing force has to be applied.
9. Cut the flue tube (18) to length = wall thickness + 180 mm. Place it inside the air tube (14). Fix the outer end with the pre-drilled Ø4 mm hole to the wall box using the black M4-screw and corresponding nut. Shut the lid (2), locking it with the two pull down catches (21) and the locking screw (22). Attach the cover (1) by pulling the lower ends of the sides outwards and lower the cover over the wall box. Make sure the tabs enter the corresponding slots.
10. Slip the fan wire (20) through the hole in the wall flange (15). Push the wall flange (15) into the air tube (14) and fasten it to the wall with four screws. Make sure the wall flange is properly centred and in level with the stove flue outlet. Tighten the screws.
11. Entering the flue tube (18) into the stove flue outlet, ease the stove in place. The stove flue outlet must enter the wall flange (15) completely, it's rubber seal (16) ensuring a gas tight fit. Attach the black 40 mm hose (17) from the stove to the wall flange (15), secure it with the black plastic hose clip. Using a tool, make sure it's fastened properly.
12. Attach the fan wire (20) to the connector on the back side of the stove. Red to red wire, black to black and so on, see electric diagram.

**NOTE:** If the stove is to be mounted in a corner, use 45° angled flue tube with Ariterm item number 2727.

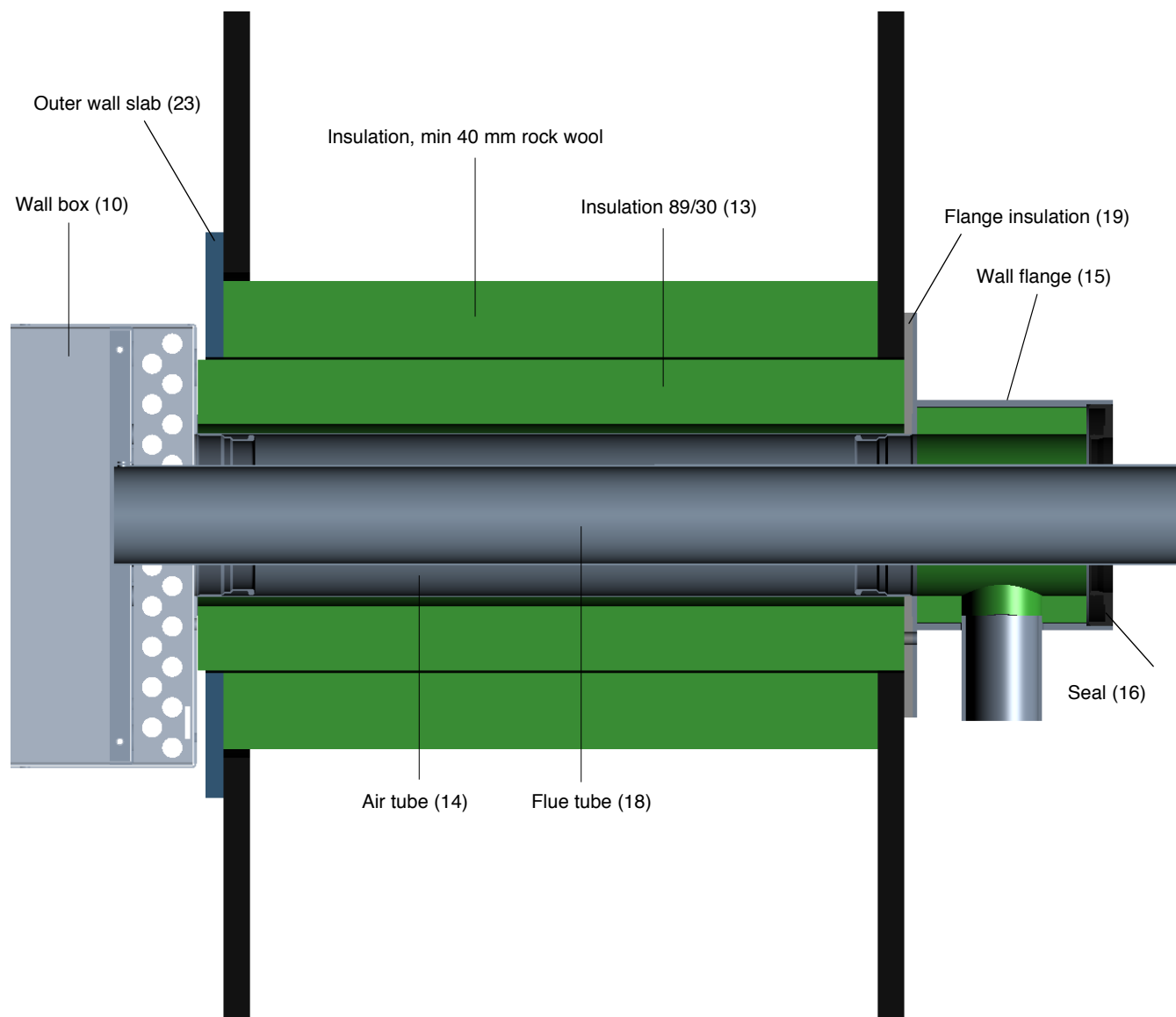


Fig.3



Fig. 4

### 5 Adjustment

Your new stove with the Arrow flue channel has got basic adjustment, but the flue values have to be checked when started for the first time. This has to be done by an authorised installer.

If adjustment is needed, then:

- Unscrew the plug from the front under the hot air inlet aperture (type K6 stoves) or on top of the soot box lid (Lilla Frö). Attach a pressure meter to the hole.
- Enter the "User menu" => "Service". Enter the service code.
- In the Service menu, go to "Test" => "Combustion fan". Adjust the values with the dial until under pressures below are reached, noting the values.

0 - 10 Pa "FanVent" .....

15 - 20 Pa "FanStart" .....

45 - 50 Pa "FanLO" .....

65 - 70 Pa "FanHI" .....

- Go back to the Service Menu, adjusting all four values as noted above.
- To obtain the best possible combustion, the values might have to be fine tuned when the stove is lit and running.
- Black soot on the stove window is a sign of bad combustion, make sure the burner cup is clean and properly seated, and increase the fan values.

### 6 Maintenance

The Arrow has to be periodically cleaned by a chimney sweeper in accordance with an ordinary chimney. This has to be done at least once per year. Proceed as follows:

- Unplug the stove from the electrical outlet.
- Take of the cover (1) by pulling the lower corners outwards, then lifting the cover.
- Remove the fan lid securing screw (22) and open the catches (21).
- Sweep or vacuum the flue channel all the way to the stove.
- Remove soot and ash from the fan wheel (12) using a vacuum cleaner or soft brush.
- Close and secure the lid and put the cover back.
- Remove ash that has been pushed into the stove.

The fan wheel might need to be cleaned more often, depending on pellet quality.

In extremely cold conditions, check daily so that ice is not forming in the fan box.

#### NOTE!

All pellet combustion generates a grey/brownish ash powder that can settle on the wall. This is easily washed of using water and a soft brush. If the ash is black and hard to wash off, the stove needs to be adjusted.



### ■ 6.1 Fault

If the stove will not start, check the separate service manual for the stove.

### ■ 6.2 Function and trouble shooting

Before ignition, and continuously when running, the control system in the stove automatically checks that the Arrow fan is running. If correct function is not indicated, the stove initiates a cooling process which lasts for 4 minutes. This can not be interrupted. There will be an error message in the display "Drgt Err".

If this happens, the fan has stopped rotating. Check for something that blocks the fan wheel, or broken electrical connections between the Arrow fan box and the stove.

The alarm can be reset by pushing the dial on the control panel.

## ■ 7 Warranty

For warranty issues Ariterm Sweden AB refers to our local Distributor.

## Declaration of Conformity

**Ariterm Sweden AB**  
**Flottiljvagen 15**  
**S-39241 KALMAR**

declare under our sole responsibility that the product

### **Drag 09 system chimney flue pipe**

to which this declaration relates is in conformity with requirements of the following directive:

#### **Construction Product Regulation CPR EU 305/2011**

The conformity was checked in accordance with the following EN-standard:

EN 1856-1:2009 Chimneys - Requirements for metal chimneys - Part 1: System chimney products

Product declaration according to EN 1856-1:2009 section 9:

**System chimney EN 1856-1-T400-P1-D-Vm-L50150-G80**

**System chimney EN 1856-1-T400-N1-D-Vm-L50150-G80**

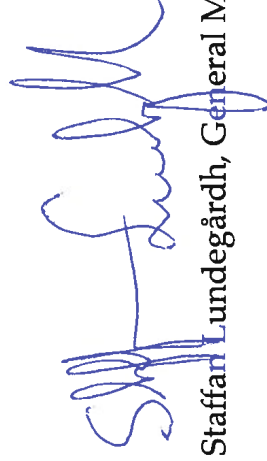
The systemet for internal Factory Production Control is certified by the notified body

**Kiwa Sverige AB, Campus Grasvik 1, 371 75 Karlskrona**

EG-certificate for FPC is issued on the 2012-08-17 with registration number 2392-CPD-1093

The product is intended for use with Ariterm Sweden AB:s pellet stoves only and must be installed in accordance with the installation manual.

Kalmar 2012-08-17



Staffan Lundegårdh, General Manager



2392

Ariterm Sweden AB, Flottiljvägen 15, S-39241 Kalmar

12

2392-CPD-1093

**EN 1856-1:2009**

Systemskorsten av metall

**T400-P1-D-Vm-L50150-G80**

**T400-N1-D-Vm-L50150-G80**

**Compressive strength:** NPD

**Flow resistance:** NPD

**Thermal resistance:** NPD

**Thermal shock resistance:** NPD

**Flexural strength:** NPD

**Freeze thaw resistance:** Yes

If these instructions are not followed at installation, operation and maintenance, Aritem Sweden AB's applicable warranties are not binding. Aritem reserves the right to make changes to components and specifications without prior notice.

Aritem Sweden AB  
Flottiljvägen 15, SE-39241 Kalmar  
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